

## AMENDMENTS TO THE CLAIMS

Please amend the claims as follows, with changes made indicated.

1. (currently amended) A multiprocessor apparatus including multiple processors and computer-readable memory, said memory ~~A method of selecting a default locality for a memory object requested by a process running on a central processing unit (CPU) in a multiprocessor system, the method comprising:~~  

computer-readable code configured to determine ~~determining~~ whether the ~~memory object~~ a memory object requested by a process running on a processor comprises a shared-memory object; and

computer-readable code configured to select a selecting the default locality to be within interleaved memory of the multiprocessor apparatus ~~the system if the memory object comprises said shared-memory object.~~
2. (currently amended) The multiprocessor apparatus ~~method of claim 1,~~ further comprising:  

computer-readable code configured to determine ~~determining~~ whether the memory object comprises a stack-type object; and

computer-readable code configured to select the default locality to be within local memory at a same cell as the requesting processor ~~if the memory object comprises the stack-type object, then selecting the default locality to be within local memory at a same cell as the requesting CPU.~~
3. (currently amended) The multiprocessor apparatus ~~method of claim 2,~~ further comprising:  

computer-readable code configured to determine whether the requesting process has threads running on multiple cells ~~if the memory~~

object comprises a non-stack-type object, ~~then determining whether the requesting process has threads running on multiple cells.~~

4. (currently amended) The multiprocessor apparatus ~~method~~ of claim 3, further comprising:  
computer-readable code configured to select the default locality to be within the interleaved memory of the system if the requesting process has threads running on said multiple cells, ~~then selecting the default locality to be within the interleaved memory of the system.~~
5. (currently amended) The multiprocessor apparatus ~~method~~ of claim 3, further comprising:  
computer-readable code configured to select the default locality to be within the local memory at the same cell as the requesting processor if the requesting process has threads running on only one cell, ~~then selecting the default locality to be within the local memory at the same cell as the requesting CPU.~~
6. (currently amended) The multiprocessor apparatus ~~method~~ of claim 1, wherein access time to the interleaved memory is approximately equal for each CPU in the multiprocessor system.
7. (currently amended) The multiprocessor apparatus ~~method~~ of claim 2, wherein the stack-type object comprises a process stack.
8. (currently amended) The multiprocessor apparatus ~~method~~ of claim 2, wherein the stack-type object comprises a UAREA type object.
9. (canceled)

10. (currently amended) ~~The multiprocessor computing system of claim 9, A~~  
multiprocessor computing system, the system comprising:  
multiple symmetric multiprocessing (SMP) nodes;  
multiple central processing units (CPUs) at each SMP node;  
a memory control unit at each SMP node which is coupled to each  
CPU at that SMP node;  
shared memory at each SMP node which is accessible by way of  
the memory control unit at that SMP node;  
a switching system coupled to the memory control units so as to  
interconnect the multiple SMP nodes;  
an operating system running on the CPUs; and  
a virtual memory (VM) fault handler within the operating system,  
wherein the shared memory includes both local memory and  
interleaved memory, and  
wherein the VM fault handler executes instructions to provide  
intelligent default locality selection for memory objects requested by a  
process running on a CPU, and  
wherein said instructions executed by the VM fault handler (a)  
determine whether the memory object comprises a shared-memory object,  
and (b) select the default locality to be within the interleaved memory of  
the system if the memory object comprises said shared-memory object.
11. (original) The multiprocessor computing system of claim 10, wherein said  
instructions executed by the VM fault handler also (c) determine whether  
the memory object comprises a stack-type object, and (d) select the  
default locality to be within local memory at a same SMP node as the  
requesting CPU if the memory object comprises the stack-type object.
12. (original) The multiprocessor computing system of claim 11, wherein said  
instructions executed by the VM fault handler also (e) determine whether  
the requesting process has threads running on multiple SMP nodes if the

memory object comprises a non-stack-type object, (f) select the default locality to be within the interleaved memory of the system if the requesting process has threads running on said multiple SMP nodes, and (g) select the default locality to be within the local memory at the same SMP node as the requesting CPU if the requesting process has threads running on only one SMP node.

13. (currently amended) The multiprocessor computing system of ~~claim 9~~ claim 10, wherein the switching system includes multiple switches interconnected together.
14. (canceled)
15. (canceled)
16. (currently amended) The multiprocessor computing system of ~~claim 9~~ claim 10, wherein access time to the interleaved memory is approximately equal for each CPU in the multiprocessor system.
17. (original) The multiprocessor computing system of claim 11, wherein the stack-type object comprises a process stack.
18. (original) The multiprocessor computing system of claim 11, wherein the stack-type object comprises a UAREA type object.
19. (canceled)
20. (canceled)